

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A low noise down converter for satellite broadcast receiving, comprising a mixer converting a received high-frequency signal into an intermediate-frequency signal,

said mixer including:

a transistor performing frequency conversion,

a PNP-first bipolar transistor having an emitter connected to a drain of said transistor and a collector connected to a gate of said transistor, ~~and~~

a temperature characteristic compensating circuit connected to a base of said PNP-first bipolar transistor and ~~canceling stabilizing~~ a temperature characteristic of said PNP-first bipolar transistor ~~to keep a collector current of said PNP bipolar transistor constant; and~~

a resistor circuit configured to adjust a rate of temperature change of a collector current of said first bipolar transistor;

wherein said temperature characteristic compensating circuit includes an NPN-a second bipolar transistor having a conductive terminal connected to the base of said PNP-first bipolar transistor, and

~~said PNP and NPN bipolar transistors are packaged into a dual transistor.~~ said resistor circuit includes a first resistance element for adjusting the collector current of said first bipolar transistor, and a second resistance element for adjusting a collector current of said second bipolar transistor.

2.-3. (canceled)

4. (currently amended) A mixer comprising:
- a transistor performing frequency conversion of a received signal;
- a ~~PNP-first~~ bipolar transistor having an emitter connected to a drain of said transistor and a collector connected to a gate of said transistor; and
- a temperature characteristic compensating circuit for ~~canceling~~ stabilizing a temperature characteristic of the ~~PNP-first~~ bipolar transistor to keep a collector current of said ~~PNP bipolar transistor constant~~, the temperature characteristic compensating circuit including an ~~NPN~~ a second bipolar transistor having a conductive terminal connected to a base of said ~~PNP-first~~ bipolar transistor; and
- ~~said PNP and NPN bipolar transistors being packaged into a dual transistor-a resistor circuit configured to adjust a rate of temperature change of a collector current of said first bipolar transistor, said resistor circuit including~~
- a first resistance element for adjusting the collector current of said first bipolar transistor, and
- a second resistance element for adjusting a collector current of said second bipolar transistor.

5. (currently amended) The low noise down converter according to claim 1, wherein

said temperature characteristic compensating circuit is configured to lessen a variation of said collector current of said ~~PNP-first~~ bipolar transistor in accordance with

said temperature characteristic by adjusting a DC voltage applied to said base of said PNP-first bipolar transistor according to saidan ambient temperature.

6. (currently amended) The mixer according to claim 4, wherein said temperature characteristic compensating circuit is configured to maintain said collector current of said PNP-first bipolar transistor irrespective of an ambient temperature by adjusting a DC voltage applied to said base of said PNP-first bipolar transistor according to said ambient temperature.

7. (new) The low noise down converter according to claim 1, wherein the first bipolar transistor is a PNP transistor, the second bipolar transistor is a NPN transistor, and the PNP and NPN bipolar transistors are packaged into a dual transistor.

8. (new) The mixer according to claim 4, wherein the first bipolar transistor is a PNP transistor, the second bipolar transistor is a NPN transistor, and the PNP and NPN bipolar transistors are packaged into a dual transistor.